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IBM

St. George Bank:
A CRM Solution Built on Bankwide Legacy Integration

An IDC e-business Case Study

THE SUBJECT

Established in 1937, St.George Bank Limited is Australia's fifth largest bank, with A$50 billion in assets and 2.6 million customers. Since its founding as a housing-based financial institution, St. George has evolved into a broadly diversified provider of banking and financial services to both retail and commercial customers.

THE GOAL

St. George's near-term goal was to significantly improve the efficiency of the bank's call center processes and, by extension, the productivity of its approximately 900 call center agents. Its longer-term goal was to put into place a fully-integrated IT infrastructure that will allow it to rapidly deploy e-business services across multiple service delivery channels.

THE SOLUTION

St. George's solution, known as Direct Desktop, is a CRM system that enables agents to quickly and easily access a customer's entire service profile. The solution's defining feature is its seamless integration with the bank's backend legacy applications, which deliver data to the agents' desktops. The Direct Desktop solution establishes a message-broker environment within the bank's IT architecture that will be heavily leveraged by subsequent e-business solutions.

WHY IBM

"We chose MQSeries because it has emerged as the de facto *messaging standard in today's market. The breadth of products supporting MQSeries gives us a broader range of products from which to choose—which is consistent with our movement toward a more standardized infrastructure."*

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St. George's use of message-broker technology has allowed the reuse of key components of the Direct Desktop solution. For example, the customer profiling portion of the solution—which uses an MQSI-enabled database lookup to display customer data on call center agents' screens—is now being ported to the bank's Web and branch channels.

Beginning in 1994 St.George Bank embarked on an ambitious strategy designed to increase its size to leverage off scale efficiencies, as well as broadening its portfolio of services (to satisfy its goal of becoming a "full service" financial institution). By 1999, the strategy had successfully diversified the bank, but had also produced a patchwork of systems and processes that contributed to inefficient operations that placed a drag on shareholder value. To improve the efficiency of its processes and underlying systems, St. George launched a bankwide process improvement program known as BestBank. The Direct Desktop CRM solution was one of the key outgrowths of BestBank.

Consistent with its mandate, the Direct Desktop solution has delivered a number of significant, near-term business results within the bank's call center operations. More importantly, the infrastructure improvements underpinning the solution will lay the groundwork for the rapid, cost-effective deployment of e-business applications that are tightly integrated with the bank's legacy applications.

St. George Bank's Solution at a Glance

▶ **e-business State**	Internal Integration
▶ **Core Functionality**	Direct Desktop provides St. George call center representatives with a single, coherent profile of the bank's customers, substantially reducing the time required to resolve inquiries. At the root of the solution is a common business services layer (built using IBM MQSeries Integrator) that communicates with the bank's backend legacy systems through XML. After receiving a request from the desktop call center application, MQSI retrieves the appropriate data from a range of legacy applications and sends it back to the call center agent's desktop as a single response.
▶ **Software**	IBM MQSeries, IBM MQSeries Integrator, IBM DB2 Universal Database, IBM CallPath
▶ **Servers**	IBM RS/6000, IBM eServer zSeries 900
▶ **Services**	IBM Global Services Australia
▶ **Key Benefits**	▶ Direct Desktop has reduced the overall length of an average customer inquiry session while improving the quality of service for customers. ▶ Dramatic improvements in call center agent productivity (up as much as 25 percent for various functions) has enabled the bank to address a higher volume of inquiries without adding call center staff. ▶ By simplifying the act of retrieving customer information, St. George has been able to reduce training costs for new agents, while reducing the amount of time spent assisting less experienced agents on complex inquiries. ▶ The use of MQSI has led to faster and lower cost application development through the reuse of key components of the solution. MQSI also makes it easier to share legacy data with other service delivery channels such as the Web and the branch network.

Situation Analysis

▶ Background

Based in Sydney, Australia, St. George Bank is the country's fifth largest bank, with over 450 branches and 2.6 million customers. Since its founding in 1937 as a housing-based financial institution, the bank has continuously expanded its service portfolio and—in the process—evolved into a broadly diversified, full-service banking powerhouse. A key element of St.George's expansion strategy has been acquisitions of financial institutions to achieve economies of scale and to fill product and service gaps in its portfolio. The first example of this strategy was the 1994 acquisition of Barclays Commercial Banking Division, which rounded out St. George's traditional retail banking focus and made it a full-service bank. St. George's 1997 acquisition of Advance Bank (which itself had acquired BankSA in 1995) yielded both a major increase in its customer base and increased operational efficiencies. The bank's subsequent acquisitions of SEALCORP (1998), KPMG Financial Services Pty. Limited (1999) and Scottish Pacific Business Finance Group (2000) further expanded St.George's portfolio of financial service offerings.

Despite its size, St. George has continued to focus on maintaining close relationships with its customer base—the quality that most differentiates the bank from its competitors.

St. George operates in an intensely competitive banking market characterized by consolidation and dominance by a small group of very large banks whose assets range from A$90 billion to $150 billion (US$45 billion to $75 billion). With approximately A$50 billion in assets, St. George is the largest bank within the second tier of the Australian banking market. One of the key factors driving industry competition has been the desire to improve efficiencies through increased scale—an approach that is often at odds with customer satisfaction. However, despite its size, St. George has continued to focus on maintaining close relationships with its customer base—the quality that most differentiates the bank from its competitors. Indeed, as competition in the Australian banking market has intensified, St. George has made the strengthening of these customer relationships a central element of its future strategies.

▶ The Need: Strengthened Performance, Rapid Turnaround

While St. George's acquisition strategy has substantially increased its scale of operation, it nevertheless resonates with the bank's "customer-first" philosophy by providing more services—and more choice—to customers. But despite their benefits, the acquisitions also produced a number of challenges for the bank, including the requirement that it harmonize the products, business processes and IT infrastructures of four organizations—Advance, BankSA, Barclays and St. George. Although the bank met all of its internal integration goals for these acquisitions, lingering process inefficiencies continued to exert downward pressure on earnings and—by extension—shareholder value.

St. George responded to these challenges by launching a broad-based process redesign effort known as BestBank, in August 1999. The central goal of the BestBank initiative was to improve the bank's operational efficiency, its speed to market with new products, and its long-term profitability. The bank also sought, as a by-product of these operational improvements, to further

strengthen customer satisfaction by delivering a wider range of services more efficiently. As such, the central thrust of the BestBank initiative was to enhance stakeholder value—encompassing the interests of all stakeholders—staff, customers and shareholders.

Action Plan and Decision Process

▶ First Steps

The first and arguably most important phase of the BestBank initiative was an intense internal analysis of existing processes designed to identify opportunities for process improvement. The bank's self-appraisal followed two tracks. A "top-down" analysis was conducted by nine project teams, each comprised of senior managers and project leaders, which worked closely with the bank's business unit personnel. The bank's "bottom-up" analysis was designed to percolate process-improvement ideas from the wider base of bank employees, including both front-line representatives and back-office staff. In addition to generating a broad base of feedback, the bottom-up analysis was also valuable because its findings could be used to validate the findings of the project teams. Overall, the bottom-up analysis produced some 3,000 suggested improvements, of which 1,000 were accepted for the strict 12-month build/implement phase. Of the 1,000, 550 involved a contribution from Information Technology—amounting to 110,000 days of effort.

"Although the bank operated a very good call center, cumbersome technology was leading to major inefficiencies. In many cases, agents were forced to initiate and flip between multiple customer database query sessions, adding substantially to the time required to resolve an inquiry."

— Greg Booker, General Manager, Architecture and Estimating Group, St. George Bank

One of the key conclusions emanating from both efforts was the need to retool the IT infrastructure underpinning the bank's call center operations to enable CRM functionality. Serving primarily retail banking customers, St. George's call center represents one of its most important points of customer interface. Its staff of approximately 900 agents (with 600 on duty at any given time) deliver services ranging from simple inquiries (e.g., transaction history) to sales (e.g., personal loans, investment products). According to Greg Booker, General Manager of the bank's Architecture and Estimating Group, most of the call center's process shortcomings were a direct outgrowth of an outdated, inflexible technology infrastructure. "Although the bank operated a very good call center, cumbersome technology was leading to major inefficiencies," says Booker. "In many cases, agents were forced to initiate and flip between multiple customer database query sessions, adding substantially to the time required to resolve an inquiry."

Other weak points of the solution related to the excessive time required to initialize the system (at the start of a shift) as well as the awkward process by which basic customer information was pulled up at the start of a session. All signs pointed to the need for a CRM solution that would place a rich array of customer information within easy reach of call center agents. Not only would a CRM solution deliver on the efficiency goals of the BestBank program, it would also improve the quality of service delivered to the bank's customers. St. George now faced the challenge of finding a solution that met its stringent requirements.

▶ Thinking Big, Moving Fast

Booker and his team framed their solution options by applying a set of hard-and-fast criteria. At the top of the list was the requirement that the solution be deployed and fully functional within 12 months—a rule dictated by the guidelines of the BestBank process framework. Another key stricture was that the solution needed to generate a rapid return on the investment. As Booker points out, a longer deployment cycle and more extended payback horizon would undermine the company's aim of generating rapid bottom-line benefits. "Following a more typical two-year implementation model would push our benefit horizon too far into the future," says Booker. "We needed a solution that guaranteed a fast path to production."

Despite a focus on delivering results in the near term, St. George's IT planners were also determined to put in place an architecture for the future—the foundation on which a flexible, scalable, and easily integrated service delivery platform could be built. In terms of solution architecture, St. George's planners were guided by the vision of a fully integrated platform that leveraged a common set of business rules on the backend of the solution. Booker sees the payoff of this approach unfolding over time as the bank rolls out new services across its other service delivery channels, such as the Web and its extensive branch network. "We saw the creation of a common service layer in the backend—one that supports all applications—as an opportunity to gain more flexibility," explains Booker. "For example, by divorcing our channels from our applications, we can replace those applications over time without the major business impact that a direct channel connection to an application would have."

The goal of St. George's planners was to establish a means of rapidly and cost-effectively integrating backend applications—many with different data formats—across all of the bank's service delivery channels. This meant a middleware infrastructure with message brokering capability.

From a technology standpoint, the linchpin of St. George's architectural vision was the middleware technology that would enable the bank's call center solution to integrate with the bank's legacy systems. These legacy applications, most of which run on an IBM mainframe, include such mission-critical applications, as the bank's credit card system, its core banking system and its lending information system. The goal of St. George's planners was to establish a means of rapidly and cost-effectively integrating backend applications—many with different data formats—across all of the bank's service delivery channels. This meant a middleware infrastructure with message brokering capability. On the solutions provider front, St. George also needed an experienced partner willing to work within a highly demanding timeframe to help develop the solution. Another important consideration was that the prospective partner work in close collaboration with the bank's internal development staff, thus limiting its dependency on the solutions provider for ongoing implementation assistance.

▶ Banking on IBM Technology

After meeting with several vendors, St. George selected IBM Global Services Australia to develop the call center solution. Key technology components selected for the solution included IBM MQSeries and IBM MQSeries Integrator (MQSI) to facilitate integration between the CRM/call center solution and the bank's legacy systems. According to Booker, the decision to employ MQSeries

and MQSI at the core of the bank's next-generation service delivery architecture was a testament to MQSeries' superior functionality and widespread support among software vendors. "We chose MQSeries because it has emerged as the *de facto* messaging standard in today's market," says Booker. "The breadth of products supporting MQSeries gives us a broader range of products from which to choose—which is consistent with our movement toward a more standardized infrastructure." Booker also cited MQSeries' superior performance characteristics—specifically its ability to handle high transaction volumes and its persistent queuing capabilities—as a major factor in the selection of MQSeries.

"IBM got the job because they believed they could do it—which we saw as a reflection of their faith in their products and of their track record in developing similar solutions. IBM convinced us that what we wanted to do was 'doable', and that we could take ownership of it and not have it dropped on our lap."

— Greg Booker

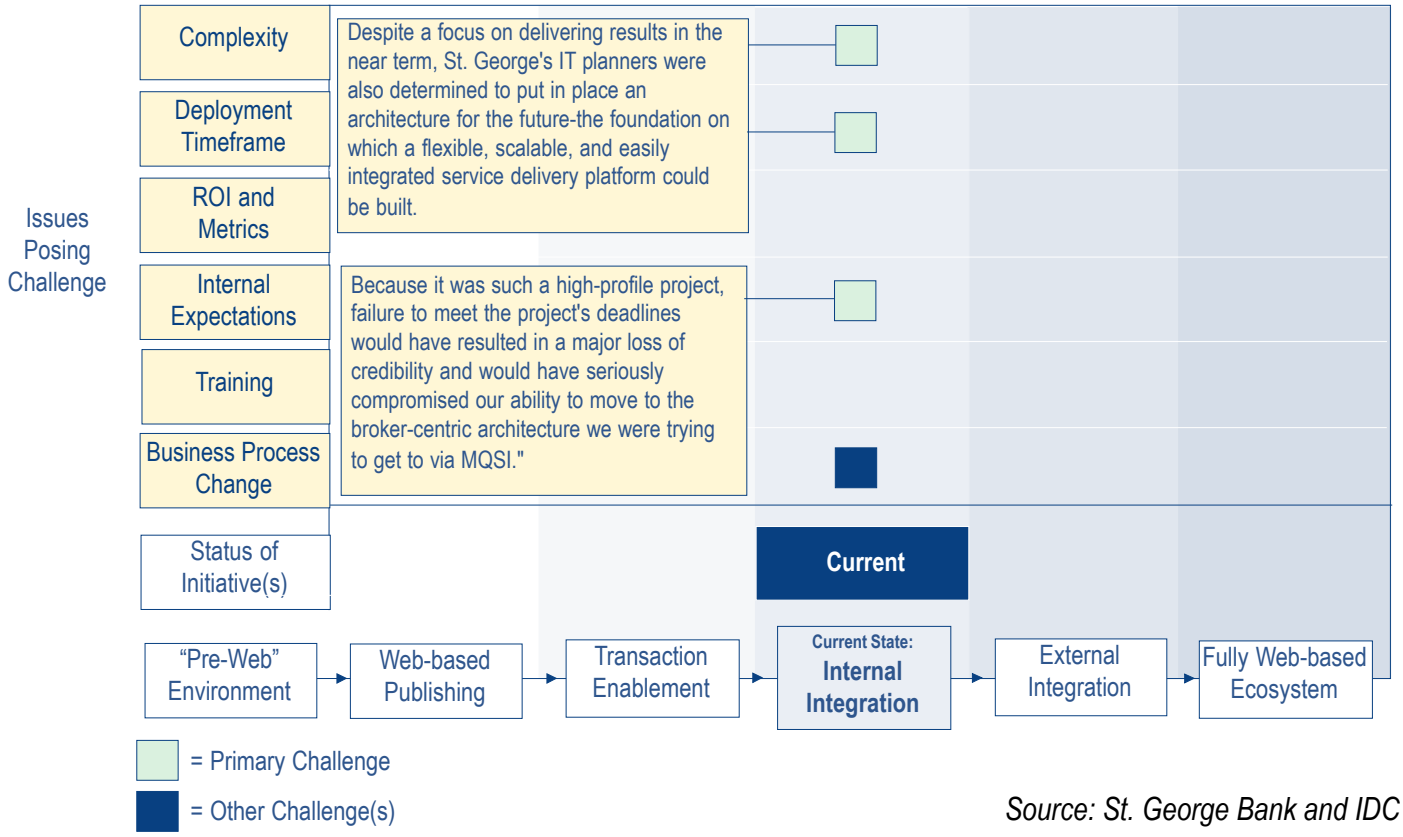
While MQSeries and MQSI promised to deliver outstanding performance and scalability as transaction volume grew, the bank also recognized the importance of the server infrastructure powering the solution. This was especially true for the message broker portion of the solution, which would handle a large number of transactions from the bank's multiple service delivery channels. To meet this performance challenge, St. George selected the IBM RS/6000 SP as the message broker hub within its middleware architecture.

St. George's selection of IBM Global Services Australia to develop the solution reflected its confidence in IBM's ability to get the job done within the bank's tight timeframe. Equally important, notes Booker, was IBM's willingness to accept the risks that the project's tight timetable entailed. "IBM got the job because they believed they could do it—which we saw as a reflection of their faith in their products and of their track record in developing similar solutions," explains Booker. "IBM convinced us that what we wanted to do was 'doable', and that we could take ownership of it and not have it dropped on our lap."

▶ Challenges

From the outset, one of the major challenges of the project was overcoming the initial skepticism of senior managers as to whether the solution could be delivered on schedule. As Booker points out, the fact that the solution relied on a relatively new product (MQSeries Integrator V2) around which there was no internal (i.e., bank) expertise caused the initiative to be flagged as a high risk project. "Because it was such a high-profile project, failure to meet the project's deadlines would have resulted in a major loss of credibility," says Booker, "and would have seriously compromised our ability to move to the broker-centric architecture we were trying to get to via MQSI."

Challenges Encountered in St. George Bank's e-business Evolution



Source: St. George Bank and IDC

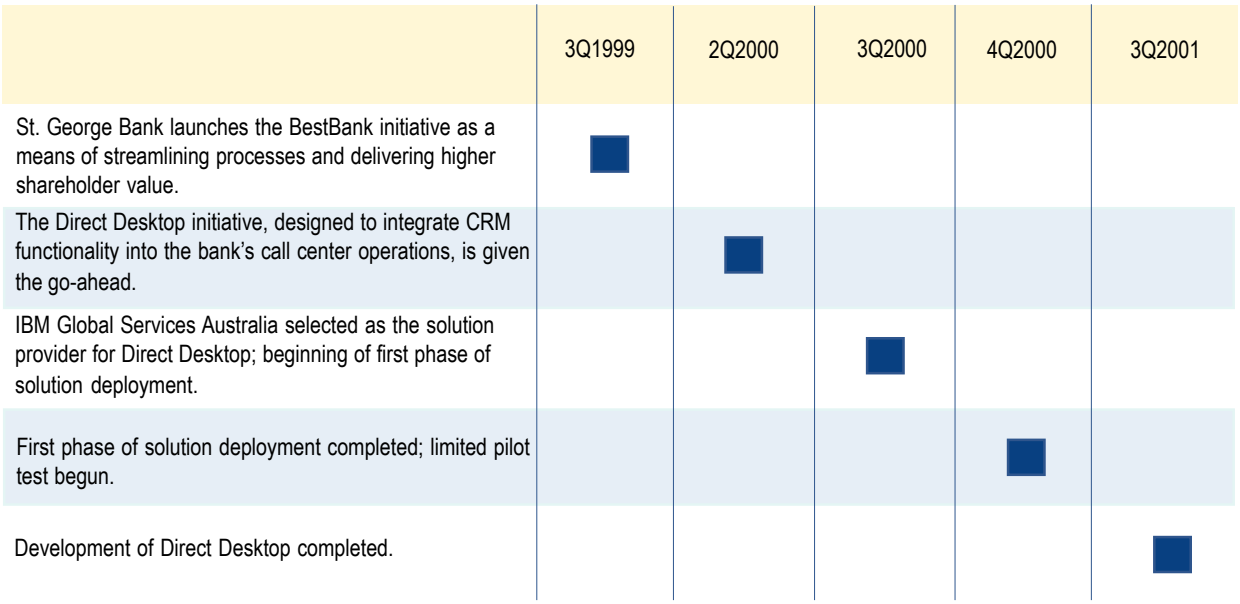
Solution Profile and Implementation Strategy

▶ The Project: Timetable and Approach

St. George's CRM initiative, dubbed Direct Desktop, was given the green light by the bank's senior management in May 2000. Under the project plan, the solution would be developed by a combination of St. George and IBM Global Services Australia personnel in four three-month phases, each of which yielded a specific deliverable. Thus, given the project's start date of mid-September 2000, the first phase—establishing the hardware and software environment and validating the connectivity between the call center, MQSI and the legacy systems—was targeted for completion by December 15, 2000. Subsequent phases of the implementation, also delivered every three months, were generally focused on adding to the core platform's functionality.

After completing the first phase of the Direct Desktop implementation on December 6, St. George conducted a limited pilot test during which the CRM solution delivered significantly more function then had originally been envisioned. After the successful completion of the pilot in early 2001, St. George staged a general roll out of the first phase of the solution (to approximately 550

Development Timetable for St. George Bank's e-business Solutions



Source: St. George Bank and IDC

seats representing 800 users). By the end of the second phase (March 2001) the development team had further expanded the functionality of the call center, with the most noteworthy development being the CTI (computer-telephony integration) enablement of the front-end call center application (IBM's CallPath software). [Within the Direct Desktop solution, CTI plays a crucial role by using inbound callers' automatic number identification (ANI) data to retrieve customer records and instantly display them at the agent's workstation.] The remaining two phases—completed in June and September 2001, respectively—were focused on deploying the remainder of the Direct Desktop's functional enhancements.

As discussed, one of St. George's key goals from the outset of the project was to minimize its dependency on whatever solution provider it chose to assist in the deployment. To ensure this, the bank delineated roles such that it would—by the end of the implementation—assume nearly all deployment responsibilities. In keeping with the bank's plan, IBM performed nearly 100 percent of the first phase of deployment, including the initial design and business requirements of the solution. By the second phase (December 2000 through March 2001), the bank was performing approximately half of the development work. In the last six months of the project (April through September 2001), St. George personnel were performing all development work.

The Solution in Action

The most immediate functional difference between Direct Desktop and the previous system is the sign-on procedure. Under the previous system, the agent's initial sign-on could take up to 20 minutes due to the need to establish multiple sessions for more complex queries. Direct Desktop's single sign-on capability streamlines this process, thereby increasing the agent's overall efficiency. Process improvements related to inbound call processing—the result of the solution's CTI enablement—are equally significant. When an inbound call is received, the caller's data is routed from the front-end call center application via MQSI to the bank's backend customer database. The customer's complete information profile is then routed to the agent's workstation (via MQSI), greatly accelerating the resolution of the customer's inquiry.

Under the previous system, the agent's initial sign-on could take up to 20 minutes due to the need to establish multiple sessions for more complex queries. Direct Desktop's single sign-on capability streamlines this process, thereby increasing the agent's overall efficiency.

A Direct Desktop transaction is initiated when a call center agent requests information from the system to fulfill a customer's information need. After the agent submits a request, it is routed to MQSI (the message broker hub), which then determines which legacy applications (e.g., St. George's credit card system, core banking system, etc.) need to be accessed to obtain the necessary data to fulfill the request. The MQSI hub then sends messages requesting this data to each application (in the appropriate format), the receipt of which invokes a transaction within these various applications. After each application returns a result, the data is sent back to the MQSI hub via MQSeries, where it is consolidated into a single message and sent back to the agent's desktop. Account data commonly accessed by call center agents relates to credit cards, personal loans, leases and bank accounts.

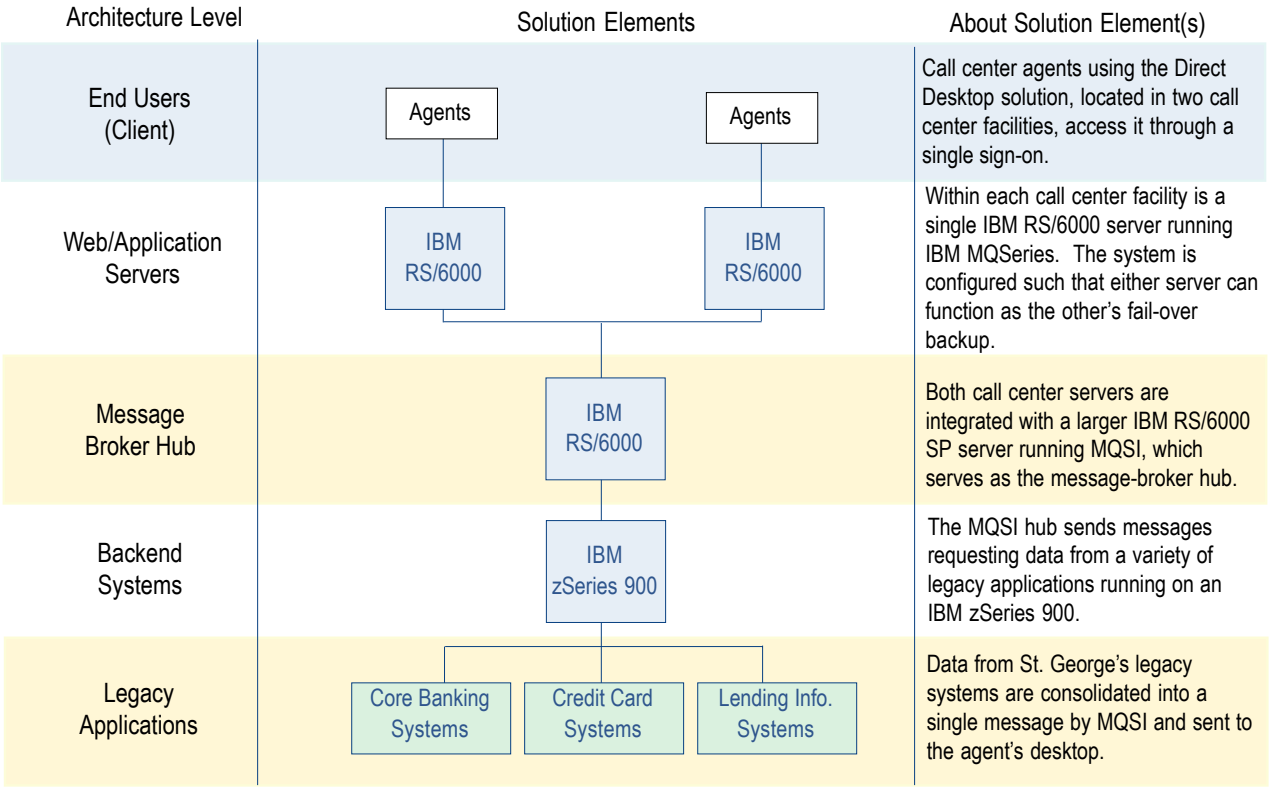
Solution Architecture

The architecture of the Direct Desktop solution is based on a multi-tier model. At the top of the architecture are the bank's call center stations (running IBM CallPath) which are located in two geographically separate facilities . Within each call center is an IBM RS/6000 server that is integrated (via IBM MQSeries and XML) to a third, larger RS/6000 SP (serving both call centers) that functions as an MQSI message broker hub. The MQSI server, in turn, is integrated with St. George's backend applications running on an IBM zSeries 900 mainframe server. The MQSI server acts as a go-between for the call center servers and the mainframe, translating data into various host message formats and sending data via connectors to mainframe databases. On the bank's mainframe, data is stored in IBM DB2 and IBM IMS databases, with IMS housing the majority of the bank's transaction information, and DB2 housing customer reference information (such as demographics and customer account data).

An MQSI server acts as a go-between for the call center servers and the mainframe, translating data into various host message formats and sending data via connectors to mainframe databases.

St. George is also in the process of rolling out a number of other initiatives employing IBM technology. While not closely associated with Direct Desktop, the bank is currently in the process of deploying a range of Tivoli products

Basic Architecture of the St. George Bank "Direct Desktop" Solution



Source: St. George Bank and IDC

bank-wide, across its base of approximately 900 servers. Specific products include:

- Tivoli Distributed Monitoring
- Tivoli Web Services Manager
- Tivoli Decision Support
- Tivoli Inventory

Business Results

St. George's Direct Desktop initiative has produced a wide range of business results from its front-line operations to its backend infrastructure. But to understand the most important of these, one must examine the solution's results in the context of the broader aim of the BestBank program—increased operational efficiency leading to real bottom-line results. Judged against this criteria, Booker ranks Direct Desktop as an unqualified success. "We've achieved substantial improvements in customer service efficiency and quality," notes Booker. "Given the millions of calls we receive from customers every

Overview of St. George Bank's Business Results Achieved

Business Process Area/Issue	Nature of Benefit	Description or Metric
Customer Service	Improved Efficiency Improved Customer Satisfaction	Direct Desktop has reduced the overall length of an average customer inquiry session while improving the quality of service for customers.
Customer Service	Cost Avoidance	Dramatic improvements in call center agent productivity (up as much as 25 percent for various functions) has enabled the bank to address a higher volume of inquiries without adding call center staff.
Customer Service	Lower Training Costs	By simplifying the act of retrieving customer information, St. George has been able to reduce training costs for new agents, while reducing the amount of time spent assisting less experienced agents on complex inquiries.
IT Infrastructure	New Application Development	The use of MQSI has led to faster and lower cost application development through the reuse of key components of the solution. MQSI makes it easier to share legacy data with other service delivery channels such as the Web and the branch network.

Source: St. George Bank and IDC

year, our cost savings in the near term and beyond will be significant." Booker sees one of Direct Desktop's key payoffs as the avoidance of customer service cost increases, enabled by the increased productivity of the bank's customer service agents.

Another more subtle, yet substantial source of productivity improvement cited by Booker is the reduction in time spent training and assisting new call center agents on complex inquiries. "Under the previous system, the agent often needed to know the ins-and-outs of our backend systems to get the information needed to resolve some of the more involved questions," says Booker. "Direct Desktop effectively eliminates this challenge for agents and in the process improves the experience for customers—all of which is completely in synch with the goals of the BestBank program."

Many of the IT architectural benefits of Direct Desktop previously discussed

are expected to unfold over time, as the bank expands the depth and breadth of its services. However, in the short span since its completion, Direct Desktop—and the MQSI-based, broker-centric model on which it is based—has already delivered on its promise of faster and lower cost application development. Booker sees the root of these benefits as the inherent efficiency of the bank's architecture, which enables multiple service delivery channels to easily access the same source of legacy data. "Our development efforts have benefited from the ability to reuse key components of the solution, which saves us time and improves the bank's speed-to-market," notes Booker. "For example, we are now in the process of leveraging the initial development of the customer profiling transaction [which uses an MQSI-enabled database lookup to display customer data on call center agents' screens] to replicate that functionality to our Web and branch channels."

Case Epilogue

In the wake of its Direct Desktop initiative, St. George is now better positioned to weather the competitive challenges of the Australian banking market. As its front-line customer service resources are now more efficiently aligned to serve customers, so is the bank's IT architecture better positioned to roll out new services rapidly, efficiently and more cost-effectively across all its channels. These improved capabilities are a direct result of building more flexibility into the core of the bank's infrastructure, and by its use of standardized technology. In addition to rolling out new services that leverage the bank's legacy systems, St. George plans to offer B2B e-business services that will require substantial data sharing and integration. Here again, the bank's embrace of common, standards-based technology such as XML will make this external collaboration easier, which in turn makes it easier to do business with St. George as a company.

"Throughout its involvement in the project, IBM showed a lot of conviction that the strength of its technology would make the project a success. We see the success of Direct Desktop as a testament to the quality of IBM technology and an affirmation of our confidence in IBM as a technology partner."

— Greg Booker

Booker sees a strong payback resulting from the bank's decision to work with IBM and IBM technology, the most immediate of which was the bank's ability to stay within the project's stringent timetable and budget. "Throughout its involvement in the project, IBM showed a lot of conviction that the strength of its technology would make the project a success," relates Booker. "We see the success of Direct Desktop as a testament to the quality of IBM technology and an affirmation of our confidence in IBM as a technology partner."

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